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10/717,069	11/19/2003	Zhenyu Wu	8109-1	7237
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F. CHAU & ASSOCIATES, LLC 130 WOODBURY ROAD WOODBURY, NY 11797			EXAMINER TRUONG, THANHNGA B	
			ART UNIT 2135	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/717,069

Applicant(s)

WU ET AL.

Examiner

Thanhnga B. Truong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 19 July 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-69 is/are pending in the application.
- 4a) Of the above claim(s) 40-43 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26, 29-39 and 44-68 is/are rejected.
- 7) ☒ Claim(s) 27, 28 and 69 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. This action is responsive to the communication filed on July 19, 2007. Claims 1-69 are pending. Claims 40-43 are withdrawn by the applicant. At this time, claims 1-26, 29-39 and 44-68 are rejected.

#### *Election/Restrictions*

2. Applicant's election without traverse of **species 1** in the reply filed on July 19, 2007 is acknowledged.

Claims 40-43 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species 2, there being no allowable generic or linking claim. Election was made **without traverse** in the reply filed on July 19, 2007.

#### *Double Patenting*

3. Claims 1-4, 8-9, 11, 13-15, 19, 21, 32, 44-45, 53, 57, 59 are provisionally rejected on the ground of nonstatutory double patenting over claims 1, 3-7, 10-11, 15-16, 19-20, 22-23, 29 of copending Application No. 10/804,240. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, as follows:

The instant application discloses a hybrid digital watermarking system for video authentication wherein the system comprising an authenticated acquisition subsystem for digitally watermarking video data; and a video management subsystem in signal communication with the authenticated acquisition subsystem for storage, viewing and verification of the digitally watermarked video data as set forth in claim 1 of the instant application. The remaining of the claims 2-4, 8-9, 11, 13-15, 19, 21, 32, 44-45, 53, 57, 59 recite the language that is identical to claims 3-7, 10-11, 15-16, 19-20, 22-23, 29 of the copending application.

The copending Application No. 10/804,240 discloses a system for automated secure digital mobile video monitoring and recording wherein the system

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comprising an authenticated acquisition subsystem for digitally watermarking video data; a video management subsystem in signal communication with the authenticated acquisition subsystem for storage, viewing and verification of the digitally watermarked video data; and a secure wireless video transfer subsystem in signal communication between the acquisition and management subsystems as set forth in claim 1 of the copending application.

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

#### ***Claim Rejections - 35 USC § 112***

4. Claims 2, 14, 46 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 2 recites the limitation "wherein the video management subsystem is in intermittent signal communication with the authenticated acquisition subsystem". The specification of the instant application does not support "intermittent signal communication". Claims 14 and 46 recite the limitation "intermittently transmitting the digitally watermarked video data prior to verification". The specification of the instant application does not support "intermittently transmitting". Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section

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351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-4, 6-15, 19-21, 23-25, 29-35, 40-47, 51-60, and 65-67 are rejected under 35 U.S.C. 102(e) as being anticipated by Moskowitz et al (US 7,007,166 B1).

a. Referring to claim 1:

i. Moskowitz teaches a hybrid digital watermarking system for video authentication, the system comprising:

(1) an authenticated acquisition subsystem for digitally watermarking video data (**column 2, lines 50-54; column 12, lines 60-62 of Moskowitz**); and

(2) a video management subsystem in signal communication with the authenticated acquisition subsystem for verifying the digitally watermarked video data (**column 12, line 60 through column 13, line 10 of Moskowitz**).

b. Referring to claim 2:

i. Moskowitz teaches:

(1) wherein the video management subsystem is in intermittent signal communication with the authenticated acquisition subsystem 5, 16-18, 22, 26, 36-39, 48-50, 61-64, and 68

c. Referring to claim 3:

i. Moskowitz teaches:

(1) the authenticated acquisition subsystem comprising a video imaging device for acquiring original video data (**column 23, lines 39-48 of Moskowitz**).

d. Referring to claim 4:

i. Moskowitz teaches:

(1) the authenticated acquisition subsystem comprising a watermarking device for applying each of an identity signature (e.g., digital signature)

and a control signature (e.g., computed signature) to the video data (**column 12, line60 through column 13, line 10 of Moskowitz**).

e. Referring to claim 6:

i. Moskowitz teaches:

(1) wherein the identity signature and the control signature are applied to the video data concurrent with real-time acquisition of the video data (**column 12, lines 66-67; column 27, lines 5-25; and column 32, line 57 of Moskowitz**).

f. Referring to claim 7:

i. Moskowitz teaches:

(1) wherein the identity signature and the control signature are embodied in a single hybrid digital watermark (**column 2, lines 60-62; column 6, lines 35-47; and column 30, lines 51-55 of Moskowitz**).

g. Referring to claim 8:

i. Moskowitz teaches:

(1) wherein the single hybrid digital watermark achieves progressively varying robustness in a single watermark by means of at least one of error-correcting signature coding and rate-distortion guided bit embedding (**column 32, lines 25-31; column 8, lines 10-21 of Moskowitz**).

h. Referring to claim 9:

i. Moskowitz teaches:

(1) the video management subsystem comprising a verification device for verifying a control signature and an identity signature (**column 12, line60 through column 13, line 10 of Moskowitz**).

i. Referring to claim 10:

i. Moskowitz teaches:

(1) wherein the identity signature and the control signature are extracted from a single digital watermark (**column 13, lines 7-10 of Moskowitz**).

j. Referring to claim 11:

i. Moskowitz teaches:

(1) the video management subsystem comprising a watermark verifying playback device for verifying a control signature and an identity signature and displaying verified video data (**column 12, line 60 through column 13, line 10 of Moskowitz**).

k. Referring to claim 12:

i. Moskowitz teaches:

(1) wherein the watermark verifying playback device alerts a user to the presence of altered video content (**column 12, line 60 through column 13, line 10 of Moskowitz**).

l. Referring to claim 13:

i. This claim consist a method of hybrid digital watermarking for video authentication to implement claim 1, thus it is rejected with the same rationale applied against claim 11 above.

m. Referring to claims 14, 46:

i. Moskowitz teaches:

(1) further comprising intermittently transmitting the digitally watermarked video data prior to verification (**column 12, line 60 through column 13, line 10 of Moskowitz**).

n. Referring to claims 15, 47:

i. Moskowitz teaches:

(1) further comprising compressing the digitally watermarked video data prior to verification (**column 7, lines 26-27; column 14, lines 26-28 of Moskowitz**).

o. Referring to claims 19, 51:

i. These claims have limitations that is similar to those of claim 3, thus they are rejected with the same rationale applied against claim 3 above.

p. Referring to claims 20, 52:

i. Moskowitz teaches:

(1) wherein the acquired original video data is in Digital Video ("DV") format **(column 23, lines 39-48; column 14, line 17 of Moskowitz)**.

q. Referring to claims 21, 53:

i. These claims have limitations that is similar to those of claim 4, thus they are rejected with the same rationale applied against claim 4 above.

r. Referring to claims 23, 65:

i. Moskowitz teaches:

(1) further comprising embedding bits of the control signature into data blocks in accordance with a pseudo-random sequence that introduces a dependency among the blocks **(column 2, lines 5-6 of Moskowitz)**.

s. Referring to claims 24, 66:

i. Moskowitz teaches:

(1) further comprising: extracting a data-dependent seed from at least one frame; and generating the pseudo-random sequence from the extracted seed **(column 13, lines 7-10; column 4, lines 19-23 of Moskowitz)**.

t. Referring to claims 25, 67:

i. Moskowitz teaches:

(1) further comprising generating the seed for the pseudo-random sequence in accordance with a hash function **(column 9, lines 18-26 of Moskowitz)**.

u. Referring to claims 29-35, 54-60:

i. These claims have limitations that is similar to those of claims 6-12, thus they are rejected with the same rationale applied against claims 6-12 above.

w. Referring to claim 38:

i. This claim has limitations that is similar to those of claims 16 and 23, thus it is rejected with the same rationale applied against claims 16 and 23 above.

x. Referring to claim 44:



i. Moskowitz teaches:

(1) watermark means for digitally watermarking the video data (column 2, line 66 through column 3, line 22 of Moskowitz).

y. Referring to claim 45:

i. Moskowitz teaches:

(1) further comprising verification means in signal communication with the watermark means for verifying the digitally watermarked video data (column 12, line 60 through column 13, line 10 of Moskowitz).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 5, 16-18, 22, 26, 36-39, 48-50, 61-64, and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moskowitz et al (US 7,007,166 B1), and further in view of Levy (US 7,142,691 B2).

a. Referring to claims 5, 22:

i. Moskowitz teaches digital watermarking with encoded digital signature, however Moskowitz is silent on the capability of showing wherein the control signature comprises fragile control bits and robust control bits. This limitation is shown in column 2, lines 1-2 of Levy.

ii. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to:

(1) have modified the invention of Moskowitz with the teaching of Levy for processing like compression, yet detect tampering like cropping or swapping of signals (column 2, lines 14-15 of Levy).

iii. The ordinary skilled person would have been motivated to:

(1) have modified the invention of Moskowitz with the teaching of Levy to trigger certain actions or control usage of the watermarked content when degradation of the fragile watermark is detected (**column 2, lines 16-18 of Levy**).

b. Referring to claims 16-18, 48-50:

i. Moskowitz teaches compressing/encoding technique for pictures, video, music, etc, however Moskowitz is silent on the capability of using format Moving Pictures Expert Group ("MPEG") for the compression. On the other hand, Levy teaches this limitation in column (**column 2, lines 13-15; column 3, lines 53-55 of Levy**).

c. Referring to claims 26, 68:

i. Moskowitz teaches generating seed for pseudo-random sequence, however Moskowitz is silent on the capability of wherein the seed is responsive to at least one DC coefficient. On the other hand, Levy teaches this limitation in **column 7, lines 1-4 of Levy**.

d. Referring to claims 36, 61:

i. Moskowitz teaches tampering (column 11, lines 47-51 of Moskowitz), however Moskowitz is silent on the capability of detecting tampering in coordination with knowledge specific to the compression domain. On the other hand, Levy teaches this limitation in **column 7, lines 54-63 of Moskowitz**.

e. Referring to claims 37, 62:

i. The combination of teaching between Moskowitz and Levy teaches the claimed subject matter. Levy further teaches:

(1) wherein the compression domain comprises DCT encoded data (**column 7, lines 1-4 of Levy**).

f. Referring to claims 39, 64:

i. The combination of teaching between Moskowitz and Levy teaches the claimed subject matter. Levy further teaches:

(1) assigning a likelihood value for possible tampering to each error block based its number of neighbors; and temporally integrating the likelihood

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values to compute a score map indicative of potentially tampered regions (**column 7, lines 54-63 of Levy**).

g. Referring to claims 38, 63:

i. These claims have limitations that is similar to those of claims 16 and 23, thus they are rejected with the same rationale applied against claims 16 and 23 above.

***Allowable Subject Matter***

9. Claims 27, 28, 69 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanhnga (Tanya) Truong whose telephone number is 571-272-3858.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor; Kim Vu can be reached at 571-272-3859. The fax and phone numbers for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

TBT

September 20, 2007

*Thanhnga B. Truong / Primary Examiner*  
*AU2135*